REMARKS

Following amendment, 25 total claims (claims 1, 3-16, and 18-27) and 3 independent claims (claims 1, 15, and 25) remain in this application. Specifically, the claims have been amended to place the present application in better condition for examination and allowance by clarify the subject matter of the present invention and by correction minor typographical and grammatical errors, and Applicants have attempted to amend the specification to correct any deficiencies cited in the Office Action. Applicants believe that the present Amendment adds no new subject matter and respectfully request the entering of this Amendment. Each of the grounds for claim rejections is now separately addressed below.

Claim Rejections – 35 USC §101

The Office Action rejected claims 11-30 under 35 USC §101 as being directed to non-statutory subject matter. Applicants respectfully note that this rejection is mostly likely now mute in view of the BPAI recently released presidential opinion in *Ex Parte Lundgren*. Specifically, Applicants respectfully note that the present invention as claimed produces a new, useful, and tangible result, as provided at page 5 of the Office Action and does not fall within one of the judicially-defined exceptions to patentability under §101. Accordingly, it is believed that this ground for rejection has been overcome.

Claim Rejections – 35 USC §112, Second Paragraph

The Office Action rejected claims 23, 25, and 27-30 11-30 under 35 USC §112, Second Paragraph for being patentably indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Specifically, the Office Action identified that the term "forecasting step" contained in these claims is lacked antecedent basis. The Office Action was correct in the assumption that the forecasting step referred to the updating step of claim 21, and Applicants have amended claim 21 to clarify that the updating step including demand forecasting. Accordingly, it is believed that this ground for rejection has been overcome.

Claim Rejections – 35 USC §102/103

The Office Action rejected original claims 1-34 as being anticipated or patentably obvious in view of the Belobaba reference, either by itself or in combination with McGill, Zaki, or Ouimet. Applicants have carefully reviewed those references, well as the other references cited in the Action as being pertinent to the present invention as disclosed, and Applicants respectfully believe that the present invention as currently claimed in the amended claims is patentably novel and non-obvious.

As an initial note, Applicants note that the present invention relates to revenue management, the art of maximizing profit generated from a limited capacity of a product over a finite horizon by selling the products to the right customer at the right price and time. The application of revenue management makes use of operations research, economics, and statistical data in order to maximize revenue for a given inventory. Although revenue management has been used by industries of different kinds (e.g. restaurants, hospitals), it has been particularly successful in the airline industry (Airline Revenue Management) during the past decades. Airline Revenue Management focuses on seat inventory control, also known as seat allocation. Since airlines only have a definite amount of seats per flight, airlines need to find the right combination of passengers that will guarantee revenue maximization. In order to effectively implement seat inventory control, an airline must use reliable forecasting techniques on future bookings to later determine a "booking control policy" that will decide whether or not to accept a booking request once it arrives.

In contrast, Belobaba provides a static, leg-based model designed to address the pricing of a single flight. In the statistical model used in Belobaba, bookings are taken sequentially, starting with the lowest class and proceeding to the next class only when the current class is filled. Further more, Belobaba is a forwards leg-based pricing method that ignores the interactions between flight legs, in contrast to broader, network-based methods that look to the interaction between pricing of different flights.

In Belobaba. the passengers flying in the same cabin of the same flight of the same plane pay a variety of different fares. For example, for the coach cabin, there are full coach fares, slightly discounted coach, deeply discounted coach, super saver, and frequent flyer. Airlines

naturally want to maximize the fare revenue for each flight, and Belobaba assumes that passengers show up in decreasing order of fare. The airline could then sell tickets on a first-come first-served basis and know that those passengers who showed up too late to obtain a ticket (because the flight filled up) were the passengers representing the lower fares. In fact, however, passengers tend to show up in the reverse order, with fare increasing. Thus, seats must be saved for the late-coming higher fare passengers if an airline is to gain more revenue. The question is how best to do this in an organized manner. One method used in trying to maximize revenue on a flight is the system of nested booking limits in which the airline limits the number of lower fare tickets booked for the flight so that there will be seats available for passengers paying higher fares. The problem could be viewed from a second viewpoint of protecting seats for the higher paying passengers, rather than limiting seat to lower paying passengers. This is the nested protection levels viewpoint, which is basically equivalent to nested booking limits. The pricing issue is to determine these protection levels should be set. If prices are too low, some high paying passengers may be lost. Similarly, if prices are too high, some seats may not be sold, which is problematic since airline seats are a perishable product in that once a plane takes off, all empty seats can no longer be sold.

Belobaba uses an expected marginal seat revenue (EMSR) approach that begins by forecasting, based on history and experience, the distribution of the demand for each ticket class. For each ticket class, Belobaba then plots a reverse cumulative distribution curve that indicates the probability that there will be at least n passengers willing to buy that class of tickets for the flight under consideration. The EMSR curve for each class of tickets is then the reverse cumulative distribution curve scaled by the price of that class of ticket. While the discrete EMSR plot is generally depicted by a continuous curve; seats are sold as units. The EMSR curve for the most expensive class of tickets can then be used to determine a protection level for that ticket class by choosing a number of passengers n such that the value of EMSR curve at n equals the price of the next, lower priced class of tickets. For the protection level for the second most expensive class of tickets, Belobaba forecasts for the demand for the two highest priced ticket classes, convolves these demand distributions, and then rescales the resulting reverse cumulative distribution curve by the ticket prices for these two ticket prices to produce a combined EMSR curve for the two most expensive ticket classes. The protection level for two most expensive

ticket classes would then be the value of *n* for which the combined EMSR for those ticket classes equals the price of for the next lower class ticket. However, the combined EMSR solution is difficult to determine since the convolution requires information on the correlation of the demands for the two ticket classes.

In contrast, dynamic methods, such as those used in the present invention, make no assumption on the order of arrival of booking requests. Belobaba further makes a simplifying assumption that, aside from pricing, the seller has no other control on the tickets such as managing the availability and timing the event tickets. More importantly, the present invention assumes that a fraction of the customers are flexible, i.e., while willing to pay the full fare, they would buy discount fare tickets if available. These assumptions not only reflect customers' behavior but also are consistent with a class of existing static models that are widely accepted by the events industry.

Toward these goals, the present invention employs a method in which fraction build curves are created for each possible combination of pricing, resources (i.e., product), and timing categories and optimizes over entire possible combination of categories. This is in contrast the static, top down methods that optimizes by price category (i.e., optimizing the sale of first class tickets, then maximizing the sales of full prices tickets, then discount tickets, etc.). Then the fractional build curves are updated per current sales data and the ticket pricing is maximized across the spectrum of possible pricing combinations. In other words, Belobaba optimizes category by category, whereas the present invention optimizes across the various combination of possible pricing category combinations. This aspect of the present invention is not inherent in airline pricing schemes, and is instead, tailored to the needs of event pricing which tend to entail greater fluctuations in pricing and demand for single events points. In other words, there is always another flight, so consumers can be picky whereas the event may be a one time event with minimal prior data, thereby causing the pricing system to rely heavily on current sales data with almost instantaneous adjustments needed to optimize sales conditions in real time. The claims have been amended to clarify these and other aspects of the present invention. Applicants further note that claim 11 and the claims depending therefrom are being presented in step + function in order to specify that the extensive method with be carried out in accordance with the process disclosed in the specification.

Applicants have further reviewed the McGill, Zaki, and Ouimet references and believe that these references do not make up for the above-described deficiencies in Belobaba and that the present invention as embodied in the claims. Specifically, the cited references do not provide for a fractional build curve creation across all possible combinations of categories, with the optimization across all possible combinations of pricing options for an event.

CONCLUSION

For all of the foregoing reasons, it is respectfully requested that the rejections set forth in the Office Action be withdrawn. All pending claims are allowable over the art of record, and the application is submitted to be in condition for allowance. Favorable reconsideration and a timely Notice of Allowance are respectfully requested.

In the event that an appropriate fee amount is not enclosed by check for fees associated with new claims, an extension of time or an Information Disclosure Statement, fees that may be due, please charge any deficiencies or credit any overpayments to deposit account no. 50-1349.

Finally, in the event that the Examiner considers certain currently rejected claims to be allowable over the prior art and feels that informal discussion would be helpful in progressing the current application toward allowance, the Examiner is invited to contact the undersigned by telephone.

Respectfully submitted,

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